RESEARCH PRODUCTIVITY AND SELECTED CHARACTERISTICS OF AGRICULTURAL ECONOMICS RESEARCH AND TEACHING FACULTY IN THE SOUTHERN REGION

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Among agricultural economics faculty in the Southern region of the United States, awareness of research productivity, teaching loads, and faculty rewards is growing. Studies on research productivity have included classifications of contributors to this journal (Oursbourn, Hardin, and Lacewell), the *Journal of Farm Economics* (Holland and Redman), and major economic journals (Opaluch and Just). The findings generally indicate that agricultural economics faculty of universities in the Southern region have not ranked very high as contributors to major economic journals (Holland and Redman). Opaluch and Just found only two universities in the Southern region among the top 20 universities contributing papers to the *American Journal of Agricultural Economics.* Among universities contributing to major national economic journals, only one of the top twelve was in the Southern region. An obvious question raised by these findings is to what extent do agricultural economics faculty in the Southern region differ in terms of research productivity and rewards from their colleagues in other regions. A related question is how faculty trained in the Southern region have fared professionally in comparison with faculty trained outside the South. In other words, do the research productivity of faculty and the institutional characteristics of one's school of graduate training influence research productivity after graduation?

Conspicuously absent from our understanding of faculty activities and rewards is information on average faculty performance in selected categories. Knowledge of mean performance offers faculty and administrators a norm with which the performance of individuals can be compared. Young faculty would find such information useful in setting intermediate goals and determining a pace for achieving such goals. Administrators and college-wide promotion committees should find such information useful in comparing the performance of individual faculty for salary and promotion decisions.

The objectives of our article are (1) to describe research productivity of agricultural economics faculty in the Southern region in terms of selected categorical research contributions, (2) to describe selected appointment, salary, and instructional characteristics of faculty in the Southern region, and (3) to contrast the Southern region with other regions by testing for differences in research productivity and faculty characteristics. Similar descriptions and comparisons are made for faculty trained in the Southern region. Results are based on data compiled from a recently completed general survey of agricultural economics teaching and research faculty.

SURVEY DATA

Data for the study were gathered as part of a general survey of 500 randomly selected academic agricultural economists at major land grant universities.[1] Questionnaires mailed in February 1980 had been pretested and designed to secure individual information without threatening respondent anonymity. Faculty members were extremely responsive to the mailed questionnaire: 313 questionnaires were returned, of which 275 were determined to be appropriate for consideration in the general sample.[2] Of the persons who sent usable responses, 197 held a Ph.D. degree and had a research appointment of 10 percent or more. These individuals formed the sample upon which our results are based.

For the descriptive and comparative analysis, individuals at institutions in the Southern region were separated from the rest of the sample. Regional definitions were based on Peck and Babb's study of employment and mobility patterns of agricultural economists. The Southern region is defined to include the following universities: Auburn, Arkansas, Florida, Georgia, Kentucky, Louisiana State, Mississippi State, North Carolina State, Clemson, Tennessee, Virginia Polytechnic Institute, and West Virginia.

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[1]Individuals for the sample were listed in *Professional Workers in State Agricultural Experiment Stations and Other Cooperating State Institutions/1978-79.* (A copy of the questionnaire used in the survey is available upon request.)

[2]This response rate was achieved by a single mailing without followup contacts. Despite mailing precautions, some questionnaires were returned because recipients were retired, had died, had moved, or did not consider themselves agricultural economists.

RESEARCH PERFORMANCE

In our study, research performance is measured by total number of selected categorical contributions by individual faculty members. Individual faculty members are used as the unit of observation to avoid faculty size and distribution problems associated with comparisons by departments. In Table 1 average career research productivity of individual agricultural economics research faculty in the Southern region is contrasted with that in all other regions. Research productivity in selected publication categories is measured by the career number of articles in those categories.[3] To control for differences in research appointments, all figures relating to research productivity are adjusted to reflect a 100 percent research appointment.[4] Single and joint authorship is recognized and assigned equal value in Table 1; hence the reader is cautioned against interpreting quantities as the results of *individual* efforts. With the exception of contributions to the *American Journal of Agricultural Economics,* no significant differences are found in career research productivity between Southern and other regional faculty by a standard pairwise t-test.

TABLE 1. RESEARCH PRODUCTIVITY OF AGRICULTURAL ECONOMICS RESEARCH FACULTY BY REGION OF EMPLOYMENT[a]

	Region	
	Southern	All Others
Average Number of Papers in:		
American Journal of Agricultural Economics	1.70*	4.68
Other National Journals	4.35	9.50
Foreign Journals	1.97	3.98
Regional Journals	4.42	3.38
Books	.96	1.61
Experiment Station Publications	37.66	30.61
Contributed and Invited Papers	16.00	15.49
Research Awards[b]	.20	1.07

[a]Based on 100 percent research appointment (only individuals with research appointments considered).
[b]Includes departmental, college, university, and professional associations.
*Different at the $\alpha = .05$ level of significance.

Results in Table 1 give a more comprehensive indication of research productivity than do contributions to a single journal. A profile of the typical researcher in the Southern region may suggest a greater emphasis on regional and experiment station publications than is shown by his counterpart in other regions. The absence of significant differences across a broad range of research productivity indicators suggests that observed differences in research productivity reported previously may have been limited to narrowly defined productivity categories and perhaps due more to faculty population differences than to individual faculty differences.

Research productivity of faculty trained in the Southern region was also measured and compared with that of faculty trained in other regions. Results in Table 2 fail to indicate significant differences in average research productivity between Southern-trained agricultural economists and those trained in other regions, except for experiment station publications. These results suggest that faculty trained at Southern universities are comparable in productivity to faculty trained in other regions. Factors possibly contributing to research productivity similarities can be seen by examining selected faculty characteristics.

TABLE 2. RESEARCH PRODUCTIVITY OF AGRICULTURAL ECONOMICS RESEARCH FACULTY BY REGION OF EDUCATION[a]

	Received Ph.D. From	
	Southern	All Other Regions
Average Number of Papers in:		
American Journal of Agricultural Economics	2.49	4.20
Other National Journals	5.65	8.68
Foreign Journals	2.85	3.61
Regional Journals	5.17	5.15
Books	1.18	1.50
Experiment Station Publications	55.21*	29.09
Contributed and Invited Papers	25.88	14.19
Research Awards	.57	.91

[a]Based on 100 percent research appointment (only individuals with research appointments considered).
[b]Includes departmental, college, university, and professional associations.
*Different at the $\alpha = .05$ level of significance.

FACULTY CHARACTERISTICS

Average characteristics of faculty in the Southern region during 1979 are described and

[3]Other productivity measures have been used in previous studies, including pages per faculty member. We believed that data on career pages in selected research publications would be difficult to obtain and the inclusion of such questions might significantly lower the response rate. Furthermore, given the diversity in type, style, and format of the publications listed in Tables 1 and 2, page comparisons may not be valid across all categories of publications.

[4]Although not specifically tested in our research, a proportional and cumulative effect was assumed with respect to research appointment and research productivity. For example, a faculty member with a two-thirds research appointment was assumed to produce twice the number of publications as the faculty member with a one-third research appointment.

contrasted to those of faculty in other regions in Table 3. Comparisons of mean differences between Southern faculty and other faculty are based on standard pairwise t-tests. With the exception of time spent on committees, research faculty in the Southern region were similar to their counterparts in other regions, that is, Southern faculty were of comparable age and academic appointment, experienced similar promotion schedules, and received essentially the same nominal salaries. More than half of the faculty surveyed in the Southern region obtained grants and the typical faculty member received $1320 in consulting income during 1979. The typical Southern faculty member had approximately 12 undergraduate advisees, 2.4 Master's students, and 1.2 Ph.D. students. When the actual number of courses taught by faculty is adjusted to reflect a 100 percent teaching appointment, these faculty taught an average of 6.4 and 2.6 undergraduate and graduate courses, respectively, during 1979. Adjusted-average teaching loads are included for comparison to indicate the teaching requirements associated with teaching appointments in the region. The absence of significant differences in faculty characteristics probably explains much of the similarity in research productivity shown in Table 1 between Southern faculty and their counterparts in other regions.

TABLE 3. AVERAGE CHARACTERISTICS OF AGRICULTURAL ECONOMICS FACULTY BY REGION OF EMPLOYMENT, 1979

	Region	
	Southern	All Others
Age	43.00	42.82
Percent Appointment		
Research	47.34	45.29
Teaching	23.22	29.13
Extension	19.20	20.34
Years Experience as		
Assistant	3.45	3.56
Associate	4.05	3.47
Full	3.96	4.69
Salary [a]		
Assistant	$23,841.00	$24,619.00
Associate	$29,360.00	$28,252.00
Full	$34,667.00	$36,472.00
Annual Consulting Income	$ 1,320.00	$ 3,087.00
Percent Obtaining Grants	50.91	61.83
Number of Career Employment Changes	.74	.90
Hours/Week Served on Committees	4.58*	3.39
Number of Student Advisees		
Undergraduate	11.64	14.79
Masters	2.40	2.41
Ph.D.	1.22	1.56
Average Number of Courses Taught [b]		
Undergraduate	6.38	5.67
Graduate	2.56	3.32

[a]Based on 12 month contract.
[b]Based on 100 percent teaching appointment (only individuals with teaching appointments considered).
*Different at the $\alpha = .05$ level of significance.

Average characteristics of agricultural economics faculty who received their degrees from Southern universities are shown in Table 4. Pairwise t-test results indicate significant differences in only one of the selected categories, number of employment changes since receiving highest degree. Similarities between Southern-trained faculty and faculty trained in other regions probably explain the similarities in research performance shown in Table 2.

TABLE 4. AVERAGE CHARACTERISTICS OF AGRICULTURAL ECONOMICS FACULTY BY REGION OF EDUCATION, 1979

	Received Ph.D. From	
	Southern	All Other Regions
Age	42.69	43.98
Percent Appointment		
Research	45.62	45.79
Teaching	21.14	28.69
Extension	28.10	18.98
Years Experience as		
Assistant	3.93	3.49
Associate	4.10	3.53
Full	2.69	4.77
Salary [a]		
Assistant	$25,450.00	$23,941.00
Associate	$28,498.00	$28,579.00
Full	$34,286.00	$36,343.00
Annual Consulting Income	$ 1,883.00	$ 2,793.00
Percent Obtaining Grants	55.17	59.91
Hours/Week Served on Committees	3.34	3.71
Number of Career Employment Changes	.45*	.92
Number of Student Advisees		
Undergraduate	7.55	13.90
Masters	1.97	2.12
Ph.D.	.79	1.33
Average Number of Courses Taught [b]		
Undergraduate	6.96	5.66
Graduate	2.39	2.95

[a]Based on 12 month contract.
[b]Based on 100 percent teaching appointment (only individuals with teaching appointments considered).
*Different at the $\alpha = .05$ level of significance.

CONCLUSIONS

We describe the research performance of agricultural economics faculty employed in the Southern region and the research performance of agricultural economics faculty trained at Southern universities. The research performance of these faculty groups is contrasted to that of their faculty counterparts employed or trained at universities in other regions. Results indicate that, with few exceptions, average research productivity in eight categories of research outlets for faculty in the Southern region is similar to that found in other regions. Faculty trained at Southern institutions are also found to have generated research publication output similar to that of their counterparts trained at universities in other regions.

These similarities in research performance are likely to be explained by similarities in faculty experience, rewards, and teaching responsibilities between Southern and other regional faculty.

In summary, the superior rankings afforded to selected universities in previous studies may be more indicative of departmental size than individual faculty productivity. Our study of research productivity among agricultural economics faculty generally indicates that individual agricultural economics faculty in the Southern region are as productive as their counterparts in other regions.

REFERENCES

Arnold, Carl J. and Raleigh Barlowe. "The Journal of Farm Economics—Its First 35 Years." *J. Farm Econ.* 51(1954):441-52.

Holland, David W. and John C. Redman. "Institutional Affiliation of Agricultural Economists—1953-1972." *Amer. J. Agr. Econ.* 56(1974):784-90.

Opaluch, James and Richard E. Just. "Institutional Affiliation of Authors of Contributions in Agricultural Economics, 1968-1972." *Amer. J. Agr. Econ.* 59(1977):400-3.

Oursbourn, Cecil D., Daniel C. Hardin, and Ronald D. Lacewell. "Classification of Contributions to the Southern Journal of Agricultural Economics: 1969-1976." *S. J. Agr. Econ.* 9(1977):155-8.

Peck, Anne E. and Emerson M. Babb. "The AAEA Membership: Employment and Mobility Patterns." *Amer. J. Agr. Econ.* 58(1976):600-5.

U.S. Department of Agriculture, Science and Education Administration. *Professional Workers in State Agricultural Experiment Stations and Other Cooperating State Institutions/1978-79.* Agriculture Handbook 305. Washington, D.C.: U.S. Government Printing Office, May 1979.